UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

VB

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/746,635	11/13/96	MURTHY V	96700/341

HM22/0915

CRAIG J ARNOLD
AMSTER ROTHSTEIN AND EBENSTEIN
90 PARK AVENUE
NEW YORK NY 10016

EXAMINER	
GABEL,G	
ART UNIT	**PAPER NUMBER**
1641	32

DATE MAILED: 09/15/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Advisory Action

Application No.	Applicant(s)
08/746,635	Murthy et al.
Examiner	**Group Art Unit**
Gailene R. Gabel	1641

THE PERIOD FOR RESPONSE: [check only a) or b)]

a) ☒ expires 6 months from the mailing date of the final rejection.

b) ☐ expires either three months from the mailing date of the final rejection, or on the mailing date of this Advisory Action, whichever is later. In no event, however, will the statutory period for the response expire later than six months from the date of the final rejection.

Any extension of time must be obtained by filing a petition under 37 CFR 1.136(a), the proposed response and the appropriate fee. The date on which the response, the petition, and the fee have been filed is the date of the response and also the date for the purposes of determining the period of extension and the corresponding amount of the fee. Any extension fee pursuant to 37 CFR 1.17 will be calculated from the date of the originally set shortened statutory period for response or as set forth in b) above.

☐ Appellant's Brief is due two months from the date of the Notice of Appeal filed on _____ (or within any period for response set forth above, whichever is later). See 37 CFR 1.191(d) and 37 CFR 1.192(a).

Applicant's response to the final rejection, filed on Aug 18, 2000 has been considered with the following effect, but is NOT deemed to place the application in condition for allowance:

☐ The proposed amendment(s):

☐ will be entered upon filing of a Notice of Appeal and an Appeal Brief.

☐ will not be entered because:

☐ they raise new issues that would require further consideration and/or search. (See note below).

☐ they raise the issue of new matter. (See note below).

☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal.

☐ they present additional claims without cancelling a corresponding number of finally rejected claims.

NOTE: _____

☐ Applicant's response has overcome the following rejection(s):

_____

☐ Newly proposed or amended claims _____ would be allowable if submitted in a separate, timely filed amendment cancelling the non-allowable claims.

☒ The affidavit, exhibit or request for reconsideration has been considered but does NOT place the application in condition for allowance because:
(see attached)

☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.

☒ For purposes of Appeal, the status of the claims is as follows (see attached written explanation, if any):

Claims allowed: *NONE*

Claims objected to: *NONE*

Claims rejected: *20*

☐ The proposed drawing correction filed on _____ ☐ has ☐ has not been approved by the Examiner.

☐ Note the attached Information Disclosure Statement(s), PTO-1449, Paper No(s). _____.

☐ Other

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Olsson et al. (Journal of Applied Biochemistry, 5:437-445 (1983)) for reason of record.

Response to Arguments

2. A) Applicants argue that although Olsson found correlation between hemoglobin and adenylate kinase, the ratio of hemoglobin to extracellular adenylate kinase between red blood cell concentrates depicted were significantly different. Applicants point to Figure 6A and 6B, pages 442 and 445 for reference.

In response, the accumulation of adenylate kinase in Figures 6A, 6B, and 6C in the Olsson reference are effected by their difference in hematocrit (packed red cell) levels so that elevated hematocrit as in Figure 6A and 6B commands elevated accumulation of adenylate kinase activity due to increased hemoglobin leakage as compared to one with a lower hematocrit level (whole blood). Nevertheless, the ratio between adenylate kinase and hemoglobin has remained relatively constant as per Olsson whose correlation results appear to overlap with the values obtained by the applicants in the instant invention.

B) Further, applicants argue that Olsson neither teaches nor suggests using adenylate kinase activity for diagnosing erythrocyte hemolysis in vivo and provides no evidence to support that erythrocyte adenylate kinase activity actually correlates with hemolysis in vivo.

In response, while the instant invention is drawn to determining adenylate kinase activity as effected by in vivo or in situ hemolysis in patients due to physiologic or pathologic causes, Olsson's study is drawn to detecting adenylate kinase activity in stored blood cells as effected by leakage of adenylate kinase from aging of erythrocytes. A person with ordinary skill in the art at the time would have appreciated the correlation between hemolysis and erythrocyte adenylate kinase suggested by Olsson as emphasized by the parallel between hemoglobin (a known indicator of hemolysis) and erythrocyte adenylate kinase. Indeed, Olsson teaches determination of erythrocytic adenylate kinase as a measure of enzymatic activity and further teaches the critical correlation between erythrocyte adenylate kinase and hemolysis regardless of the fact that the phenomenon of hemolysis occurred in vivo or in vitro. The criticality in both methods is in the measuring of enzyme activity in adenylate kinase as it correlates to hemolysis, i.e. occurrence of "free" hemoglobin outside of an erythrocytic cell; not whether such occurrence takes place in vivo or in vitro.

C) Applicant further argues that Olsen provides no teaching or suggestion that the presence of at least about 20 U/L erythrocyte kinase activity is indicative of erythrocyte hemolysis in a subject.

In response, minimum diagnostic values acquired in detection or determination methods of analyte activity have been substantially shown by the prior art reference to be achieved using maximization or optimization procedures. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum of workable ranges (or values) by routine experimentation." Application of Aller, 220 F.2d 454, 456, 105 USPQ 233, 235-236 (C.C.P.A. 1955). The "discovery of an optimum value in a known process is ordinarily within the skill of the art." Application of Boesch, 617 F.2d 272, 276, 205 USPQ 215, 218-219 (C.C.P.A. 1980). Since Applicant has not disclosed that the specific limitation recited in instant claim 20 is for any particular purpose, absent unexpected results, it would have been obvious for one of ordinary skill to discover the optimum workable range of the adenylate kinase activity determination method disclosed by the prior art by normal optimization procedures.

3. Applicant's arguments have been considered but are not deemed persuasive. Claim 20 is not allowed.

9/12/02

Gailene R. Gabel
Patent Examiner
Art Unit 1641

LONG V. LE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600